

CLAIMS**What is claimed is:**

- 1 1. A device for cutting a strip of tissue of approximate width W from a
2 mass of tissue, said device comprising:
3 an elongate cutting tube having a distal end and a lumen that opens
4 through an opening in the distal end;
5 first and second cutting edges being formed on generally opposite
6 edges of the distal end of the cutting tube said first and second cutting edges
7 being separated by a distance D;
8 said cutting tube being advanceable through tissue such that the first
9 and second cutting edges will cut a strip of tissue having approximate width
10 W, said approximate width W being approximately equal to the distance D
11 between the first and second cutting edges.
- 1 2. A device according to Claim 1 wherein the cutting tube comprises a
2 stainless steel hypodermic tubing.
- 1 3. A device according to Claim 1 further comprising at least one
2 protruding tip formed on the distal end of the cutting tube.
- 1 4. A device according to Claim 2 wherein the protruding tip is tapered.
- 1 5. A device according to Claim 2 wherein the protruding tip is sufficiently
2 blunt to be substantially a traumatic.
- 1 6. A device according to Claim 1 wherein the first and second cutting
2 edges are located on opposite lateral sides of the distal end of the cutting
3 tube.

- 1 7. A device according to Claim 4 wherein the first and second cutting
2 edges are located on opposite lateral sides of the distal end of the cutting tube
3 and the protruding tip is located on the bottom of the distal end of the cutting
4 tube.
- 1 8. A device according to Claim 7 further comprising a blunt edge located
2 at the top of the distal end of the cutting tube.
- 1 9. A device according to Claim 1 wherein there is a single bend or curve
2 formed in the cutting tube.
- 1 10. A device according to Claim 9 wherein there is a single bend of
2 approximately 20 degrees to approximately 90 degrees formed in the cutting
3 tube.
- 1 11. A device according to Claim 10 wherein the bend is approximately 90
2 degrees.
- 1 12. A device according to Claim 1 wherein there are a plurality of bends or
2 curves formed in the cutting tube.
- 1 13. A device according to Claim 12 wherein there are a plurality of bends
2 of approximately 20 degrees to approximately 90 degrees each formed in the
3 cutting tube.
- 1 14. A device according to Claim 12 wherein there is a first bend of
2 approximately 90 degrees and a second bend of approximately 90 degrees,
3 formed in the tube.
- 1 15. A device according to Claim 1 further comprising a source of negative
2 pressure connected to the lumen of the cutting tube so as to aspirate fluid or
3 matter through the lumen of the tube.

- 1 16. A device according to Claim 1 wherein the device further comprises a
2 second lumen.
- 1 17. A device according to Claim 16 wherein one of the lumens is
2 connected to a source of fluid such that fluid may be infused therethrough and
3 the other of said lumens is connected to a source of negative pressure such
4 that fluid or matter may be aspirated therethrough.
- 1 18. A device according to Claim 1 wherein at least one of the cutting edges
2 is heated such that it will cauterize as it cuts.
- 1 19. A device according to Claim 1 further comprising apparatus for
2 severing the strip of tissue when the strip of tissue has reached a desired
3 length.
- 1 20. A device according to Claim 19 wherein the apparatus for severing the
2 strip of tissue comprises at least one electrode which, when energized, will
3 sever the strip of tissue.
- 1 21. A device according to Claim 1 wherein the device further comprises:
2 a second tube that has a lumen and a distal end;
3 wherein the cutting tube extends through the lumen of the outer tube
4 with a distal portion of the cutting tube extending out of and beyond the distal
5 end of the outer tube.
- 1 22. A device according to Claim 21 wherein:
2 the outer diameter of the cutting tube is smaller than the inner diameter
3 of the second tube such that fluid may flow through the lumen of the second
4 tube; and
5 at least one aperture is formed in the second tube to permit fluid to
6 pass into or out of the lumen of the second tube.

- 1 23. A method for cutting a strip of tissue of width W from a tissue mass,
2 said method comprising the steps of:
- 3 A) providing a device which comprises;
- 4 i. an elongate cutting tube that has a distal end and a lumen
5 that opens through an opening in the distal end; and
6 ii. first and second cutting edges formed on generally opposite
7 edges of the distal end of the cutting tube, said first and second cutting
8 edges being separated by a distance D that is approximately equal to
9 the width W of the strip of tissue to be cut; and
- 10 B) advancing the distal end of the cutting tube through the mass of
11 tissue such that the first and second cutting edges cut a strip of tissue
12 of approximate width W.
- 1 24. A method according to Claim 23 wherein the mass of tissue is *in vivo*.
- 1 25. A method according to Claim 23 wherein the mass of tissue is *in vitro*.
- 1 26. A method according to Claim 23 wherein the mass of tissue is located
2 within the body of a human or animal subject.
- 1 27. A method according to Claim 26 wherein the strip of tissue is removed
2 for a diagnostic or therapeutic purpose.
- 1 28. A method according to Claim 27 wherein the subject suffers from
2 glaucoma and wherein the method is carried out to remove a strip of
3 trabecular meshwork from an eye of the subject to facilitate drainage of
4 aqueous humor from the eye thereby lowering intraocular pressure.
- 1 29. A method according to Claim 28 wherein Step B comprises:
2 inserting the device into the anterior chamber of the eye;
3 positioning the distal end of the cutting tube adjacent to or within the
4 trabecular meshwork of the eye; and

5 advancing the cutting tube such that the cutting edges cut a strip of
6 approximate width W from the trabecular meshwork.

1 30. A method according to Claim 29 wherein the device provided in Step A
2 of the method further comprises a protruding tip and wherein the protruding tip
3 is advanced through the trabecular meshwork and into Schlemm's Canal and,
4 thereafter, the protruding tip is advanced through Schlemm's Canal as the
5 cutting tube is advanced to cut the strip of tissue.

1 31. A method according to Claim 23 wherein the device provided in Step A
2 further comprises apparatus for severing the strip of tissue after the strip of
3 tissue has reached a desired length and wherein the method further
4 comprises the step of:

5 C) severing the strip of tissue after the strip of tissue has reached a
6 desired length.

1 32. A method according to Claim 23 wherein the method is carried out to
2 form an incision in skin, mucous membrane, an organ, a tumor or other
3 anatomical structure.

1 33. A method according to Claim 23 further comprising the step of:

2 C) removing the strip of tissue through the lumen of the cutting
3 tube.

1 34. A method according to Claim 33 wherein the lumen of the cutting tube
2 is attached to a source of negative pressure to aspirate the strip of tissue
3 through the lumen of the cutting tube.

1 35. A method according to Claim 23 wherein the device provided in Step A
2 further comprises a second lumen and wherein the method further comprises:
3 infusing a fluid through one of said lumens; and
4 aspirating fluid and/or matter through the other of said lumens.